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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,499	02/27/2002	Raymond Andrew Saksa	PU010044	8703

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EXAMINER

BRINEY III, WALTER F

ART UNIT

PAPER NUMBER

2644

DATE MAILED: 08/26/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,499

Applicant(s)

SAKSA ET AL.

Examiner

Walter F Briney III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 21, 22, 24-30, 32-35, and 37-39 are rejected under 35

U.S.C. 102(b) as being anticipated by Atkins (US Patent 5,416,663).

Claim 21 is limited to a *telephony protection device*. Atkins discloses an arrangement for protecting telecommunications equipment from voltage transients (abstract; figure 4). As seen from figure 4, Atkins discloses that the protection device is connected to a pair of lines (1), and because the device is for use in a telecommunications system, it is inherent that these lines represent a tip and ring conductor of a telecommunications twisted pair. In series with both conductors (1) are current-limiting PTC resistors (6) (i.e. *a first input resistance and a second input resistance*). Following the current-limiting resistors (6) is a pair of voltage shunting elements (3). While depicted as clamping diodes, Atkins discloses that they are spark gaps (column 2, lines 44-47) (i.e. *a primary spark gap*). As seen from the figure, the pair form a voltage shunt in a common mode configuration between the tip and ring conductors (1). In addition to the voltage shunt pair is a secondary voltage shunt pair (5), the pair comprises two gas-

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discharge tubes (column 3, lines 65-67) (i.e. a specialized spark gap where electrons are emitted in a gaseous medium enclosed within a tube), situated in front of the PTC resistors (6) (i.e. *first and second secondary spark gaps*). The figure clearly illustrates that the secondary pair of voltage shunting elements is in parallel with the primary voltage shunting elements. When the primary voltage shunt (3) allows voltage to short to the common ground terminal there will be a large voltage transient on the line presented to the load. To prevent this transient from affecting the load an inductance (4) and capacitor (2) pair are placed on the tip and ring lines (1) to reduce high-frequency noise from reaching the load (i.e. *a first filter and second filter...for attenuating a transient voltage developed on the tip and ring line by said primary spark gap*). Therefore, Atkins anticipates all limitations of the claim.

Claim 22 is limited to *the telephony protection device of claim 21*, as covered by Atkins. Atkins discloses a pair of current-limiting PTC resistors (figure 4, element 6; column 3, line 67-column 4, line 2). PTC resistors operate in two effective modes, a low-temperature mode and a high-temperature mode. When in an low-temperature mode they effectively disappear from a circuit, thus allowing uninhibited current flow, but when the current flow through them reaches a switching threshold they enter their high-temperature mode. The high-temperature mode is characterized by an extremely high-impedance compared to the low-temperature mode, thus severely limiting current flow. In this way, PTC resistors are considered as *fuse-resistors* because they are effectively

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shorted during low current activities, but nearly short out a circuit during high-current activities. Therefore, Atkins anticipates all limitations of the claim.

Claim 24 is limited to *the telephony protection device of claim 21*, as covered by Atkins. As seen in figure 4, Atkins discloses two clamping diodes (10; column 4, lines 26-34) connected between the tip and ring lines (i.e. *connected between said first first-stage output and said second first-stage output*). Therefore, Atkins anticipates all limitations of the claim.

Claim 25 is limited to *the telephony protection device of claim 21*, as covered by Atkins. As seen from figure 4, Atkins discloses a primary voltage shunt, which is disclosed as a spark gap, and a secondary voltage shunt (5), which is disclosed as a gas-discharge tube (i.e. a spark gap that emits electrons through a gaseous medium enclosed within a tube). Both primary and secondary voltage shunting devices are connected to a common ground (1'). Therefore, Atkins anticipates all limitations of the claim.

Claim 26 is limited to *the telephony protection device of claim 21*, as covered by Atkins. As seen in figure 4, Atkins discloses two filters (elements 2 and 4), one filter for each conductor of line 1. Clearly, the inductors (4) are in series with the output of the current-limiting PTC resistors (6), and the capacitors (2) are linked to ground (1') by way of the primary voltage shunt (3). Therefore, Atkins anticipates all limitations of the claim.

Claims 27 and 28 are essentially the same as claims 21 and 22, respectively, and are rejected for the same reasons.

Claim 29 is limited to *the telephony protection device of claim 27*, as covered by Atkins. As seen in figure 4, Atkins discloses two gas-discharge tubes (i.e. spark gaps where the spark is formed in a gaseous medium contained within a tube), the tubes are in series connection between the tip and ring conductors of line 1 (i.e. *wherein said secondary spark gap circuitry comprises series first and second secondary spark gaps*). Therefore, Atkins anticipates all limitations of the claim.

Claims 30, 32, and 33 are essentially the same as claims 25, 24, and 26, respectively, and are rejected for the same reasons.

Claim 34 is limited to a telephony protection device. Atkins discloses an arrangement for protecting telecommunications equipment from voltage transients (abstract; figure 4). As seen from figure 4, Atkins discloses that the protection device is connected to a pair of lines (1), and because the device is for use in a telecommunications system, it is inherent that these lines represent a tip and ring conductor of a telecommunications twisted pair. In series with both conductors (1) are current-limiting PTC resistors (6) (i.e. *a tip line resistor and a ring line resistor*). Following the current-limiting resistors (6) is a pair of voltage shunting elements (3). While depicted as clamping diodes, Atkins discloses that they are spark gaps (column 2, lines 44-47) (i.e. *a primary spark gap*). As seen from the figure, the pair form a voltage shunt in a common mode configuration between the tip and ring conductors (1). In addition to the voltage shunt pair is a secondary voltage shunt pair (5), the pair comprises two gas-discharge tubes (column 3, lines 65-67) (i.e. *a specialized spark gap where electrons are emitted*

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in a gaseous medium enclosed within a tube), situated in front of the PTC resistors (6) (i.e. *first and second secondary spark gaps*). The figure clearly illustrates that the secondary pair of voltage shunting elements is in parallel with the primary voltage shunting elements. When the primary voltage shunt (3) allows voltage to short to the common ground terminal there will be a large voltage transient on the line presented to the load. To prevent this transient from affecting the load a capacitor (2) pair is placed on the tip and ring lines (1) to reduce high-frequency noise from reaching the load by shunting any transients to ground (i.e. *a tip line filter and a ring line filter...for attenuating a transient voltage developed on the tip and ring line by said primary spark gap*). Therefore, Atkins anticipates all limitations of the claim.

Claims 35 and 37-39 are essentially the same as claims 22 and 24-26, respectively, and are rejected for the same reasons.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 23, 31, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atkins in view of Hershfield (US Patent 4,677,518).**

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Claim 23 is limited to *the telephony protection device of claim 21*, as covered by Atkins. Atkins discloses two filters (figure 4, elements 2 and 4). The inductances (4) provide a high-impedance to high-frequency inputs such as voltages due to lightning strikes on the conductors (1). While Atkins includes the filters, the actual design parameter and choice of components is not specified by Atkins. Therefore, Atkins anticipates all limitations of the claim with the exception *wherein said first stage further comprises a first ferrite bead in series with said first input resistance and a second ferrite bead in series with said second input resistance*. Hershfield teaches a transient voltage suppression unit (abstract; figure 6). As seen in figure 6, a plurality of ferrite beads are used as inductance devices in a filtering scheme for limiting transient voltage spikes that are caused by things such as lightning strikes (column 5, line 40 to column 6, line 6), the beads providing an advantage in that they do not saturate under high currents (column 6, lines 7-33). It would have been obvious to use ferrite beads in a transient reducing filter as taught by Hershfield because the ferrite beads do not saturate under high currents so that their inductance remains constant resulting in stable impedance to high-frequency transients.

Claim 31 is essentially the same as claim 23, and is rejected for the same reasons.

Claim 36 is limited to *the telephony protection device of claim 34*, as covered by Atkins. Atkins flushes out the capacitor filters with an inductance (4), however, the type of inductor used is not disclosed by Atkins. Therefore, Atkins anticipates all limitations of the claim with the exception of *a first and second*

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ferrite bead connected in series between said second tip/ring line resistor end of said tip line resistor and said tip/ring line filter. Hershfield teaches a transient voltage suppression unit (abstract; figure 6). As seen in figure 6, a plurality of ferrite beads are used as inductance devices in a filtering scheme for limiting transient voltage spikes that are caused by things such as lightning strikes (column 5, line 40 to column 6, line 6), the beads providing an advantage in that they do not saturate under high currents (column 6, lines 7-33). It would have been obvious to use ferrite beads in a transient reducing filter as taught by Hershfield because the ferrite beads do not saturate under high currents so that their inductance remains constant resulting in stable impedance to high-frequency transients.

Response to Arguments

Applicant's arguments with respect to claims 21-39, filed 7 June 2004, have been considered but are moot in view of the new ground(s) of rejection.

Claims 1-20 have been cancelled.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 703-305-0347. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB
8/19/04



XU MEI
PRIMARY EXAMINER